

REMARKS/ARGUMENTS

This preliminary amendment is submitted with a request for continued examination. In the Office Action, the Examiner objects to Claim 52 for use of the language “capable of wireless communication” as not being a positive recitation. Claims 52, 71, 72, 80-84, 87, and 88 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claim 87 is rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Claims 36, 37, 46, 47, 49, 50, 52-55, 67, 68, 70, 71, 80, 81, 83, 84, 87, and 88 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Pat. No. 6,304,556 to Haas (“Haas”). Claims 38, 39, 40, 48, 56, 57, 58, 66, 72, 73, 74, and 82 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Haas in view of U.S. Pat. No. 6,751,455 to Acampora (“Acampora”). Claims 41-45, 51, 59-65, and 69 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form.

Applicants have amended independent Claims 36, 52, 53, 54, 87, and 88 to further patentably distinguish the cited references. Clarifying amendments have been made to several dependent claims as well. In light of the amendments and subsequent remarks, Applicants respectfully submit that the claims are in condition for allowance.

The Objection to Claim 52 is Overcome

Applicants have amended Claim 52 to recite that the second mesh network tier subscriber unit is configured to wirelessly communicate in a second mesh network tier. Accordingly, Applicants respectfully submit that the recitation objected to in the Office Action has now been amended to comprise a positive recitation such that the objection is overcome.

The § 112 Rejections are Overcome

The Office Action submits that Claim 52 is indefinite for not indicating any structural elements which comprise the communications unit. Applicants have amended Claim 52 to recite a communications unit comprising a first mesh network tier sink node unit. Accordingly, the mesh network tier sink node unit is a structural element which comprises the communications

unit. Applicants therefore respectfully submit that the rejection of Claim 52 under § 112 is overcome. Furthermore, as Claims 71, 72, and 80-84 are rejected as depending from Claim 52, Applicants further respectfully submit that the rejection of Claims 71, 72, and 80-84 under § 112 is overcome by the amendment to Claim 52 and for at least those reasons argued in connection with Claim 52.

Claim 87 is rejected as being indefinite because the claim is drawn to a processor configured to execute a computer program at a communications unit, but allegedly does not indicate any structural elements which comprise the processor. Applicants have amended Claim 87 to recite “an apparatus comprising a processor and a memory storing instructions that when executed by the processor cause the apparatus to: provide a wireless communications path...; provide a dedicated communications path...; and provide the at least one of the first mesh network tier subscriber units with a communication path to the second mesh network tier subscriber unit.” Accordingly, Claim 87 positively recites an apparatus comprising a processor and a memory storing instructions, which when executed by the processor cause the apparatus to perform each of the further recitations of the claim. Accordingly, revised Claim 87 is directed to an apparatus and provides recitations that provide structural elements (i.e., the processor and the memory) which comprise the apparatus. Applicants therefore respectfully submit that the rejection of Claim 87 under § 112 is overcome.

Claim 88 is rejected as being indefinite for being directed toward a controller for a communications unit, but does not indicate any structural elements which comprise the controller. Applicants have amended Claim 88 to recite a computer program product comprising at least one computer readable storage medium having computer readable program instructions stored therein. Accordingly, the at least one computer readable storage medium comprises a structural element which comprises the computer program product. Applicants therefore respectfully submit that the rejection of Claim 88 under § 112 is overcome.

The Rejection of Claim 87 under § 101 is Overcome

The Office Action submits that Claim 87 is directed to non-statutory subject matter. In this regard, the Office Action posits that “[a]lthough the claim is drawn towards a processor, the

claim appears to be attempting to claim a disembodied computer program per se.” As discussed above in connection with the § 112 rejection, Applicants have amended Claim 87 to recite an apparatus comprising a processor and a memory storing instructions that when executed by the processor cause the apparatus to perform the further recitations of the claim. Accordingly, revised Claim 87 provides recitations that “breathe life” into both the processor and the memory. Therefore, Applicants respectfully submit that the rejection of Claim 87 under § 101 is overcome.

The Rejection of Claims 36, 52, 53, 87, and 88 under §102 is Overcome

The Office Action submits that each of independent Claims 36, 52, 53, 87, and 88 is anticipated by Haas. Applicants have amended independent Claims 36, 52, 53, 87, and 88 to each recite a “dedicated connection between the first mesh network tier sink node unit and a second mesh network tier unit.”

Haas discloses a multi-tier ad-hoc unit where the nodes of the network (which the Office Action posits discloses a subscriber unit) are divided into groups or clusters of nodes communicating over a first tier of the network. Therefore the clusters are neighboring nodes capable of communicating directly or indirectly with each other. Each of the clusters of the first tier of the network has a node designated a cluster header node. These cluster header nodes (which the Office Action also posits discloses subscriber units), also operate within a second tier of the network. The second tier of the network communicating to only other cluster header units for different clusters.

Haas, however, does not teach or suggest the use of a dedicated connection between the first mesh network tier sink node unit and a second mesh network tier unit. As described within Haas, Haas is concerned only with ad-hoc networks whereby a dedicated connection would be seemed to be at best inconvenient and at worst completely against the spirit of the ad-hoc network ethos. Accordingly, Haas teaches away from the use of a dedicated connection. None of the other cited references, taken alone or in combination, cure the deficiencies of Haas. Moreover, even if the Examiner were to provide a reference suggesting the use of such a

dedicated connection, Haas would teach away from the combination since as described above, Haas is directed to ad-hoc networks.

Applicants therefore respectfully submit that Claims 36, 52, 53, 87, and 88 are patentably distinct from Haas such that the rejection of Claims 36, 52, 53, 87, and 88 under §102(e) is overcome and Claims 36, 52, 53, 87, and 88 are in condition for allowance.

The Rejection of Claim 54 under §102(e) is Overcome

The Office Action submits that independent Claim 54 is anticipated by Haas. Amended Claim 54 is directed to an apparatus for operation in a communications system comprising at least a first mesh network tier and a second mesh network tier. The second mesh network tier geographically at least partly overlaps the first mesh network tier and comprises a second sink node and a plurality of second communication terminals configured to wirelessly communicate with the second sink node. The apparatus is configured to operate as a first sink node configured to be in wireless communication with a plurality of first communication terminals. The apparatus is further configured to operate as a second communication terminal for providing one of the first communication terminals with communications access to the second mesh network tier. One of the first mesh network tier or the second mesh network tier is a preconfigured mesh tier.

In contrast, Haas, at most, discloses multiple tiers of ad-hoc networks and thus does not teach or suggest a preconfigured mesh tier as recited in amended independent Claim 54. Accordingly, Haas teaches away from the use of a preconfigured mesh tier. None of the other cited references, taken alone or in combination, cure the deficiencies of Haas. Moreover, even if the Examiner were to provide a reference suggesting the use of such a preconfigured mesh tier, Haas would teach away from the combination since as described above, Haas is directed to ad-hoc networks.

Applicants therefore respectfully submit that Claim 54 is patentably distinct from Haas such that the rejection of Claim 54 under §102(e) is overcome and Claim 54 is in condition for allowance.

The Rejection of the Dependent Claims is Overcome

Because each of the dependent claims includes each of the recitations of a respective independent base claim, Applicants further submit that the dependent claims are patentably distinguishable from the cited references, taken alone or in combination, for at least those reasons discussed above. Accordingly, applicants respectfully submit that the rejections of the dependent claims are overcome and the dependent claims are in condition for allowance.

CONCLUSION

In view of the amended claims and remarks presented above, it is respectfully submitted that all of the present claims of the present application are in condition for immediate allowance. It is therefore respectfully requested that a Notice of Allowance be issued. The Examiner is encouraged to contact Applicants' undersigned attorney to resolve any remaining issues in order to expedite examination of the present application.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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